

THE *Journal* AER OF THE

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FEB 14 1947

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THE ASSOCIATION FOR EDUCATION BY RADIO

Who? What? Where? When?

Helen Devery, Philadelphia AER, sent in twelve new members during October.

Stanley Field, Washington, D. C., AER treasurer, sent in ten new members during October.

Station WBEZ, Chicago public schools, changed its frequency, February 1, from 42.5 to 44.5 megacycles.

Columbia Broadcasting System and Station WBOW, Terre Haute, Indiana, are the two latest institutional members of the AER.

Mary Alice King was appointed recently to the post of instructor in radio, Marietta [Ohio] College. Her courses this year are the first radio courses to be offered by the college.

William C. Smith is the new radio director, National Council of Catholic Men. His duties include the supervision of three network programs, *The Catholic Hour*, *The Hour of Faith*, and *Faith in Our Time*.

The Radio Council, Chicago public schools, presented a test television program of its popular radio series, *The Battle of Books*, November 13, in cooperation with the American Television Laboratories, Chicago.

Hugh B. Mitchell, U. S. Senator from Washington, has an article, "Children's Radio Diet," in the December *NEA Journal* [page 589] which should be read by every teacher and parent in the United States.

Morrison L. Watts, director of curriculum, Alberta Provincial Department of Education, and **M. Aurele Sequin**, director of educational broadcasts [French], Canadian Broadcasting Corporation, are new Canadian AER members.

Ben James, editor, *Consumer's Guide*, a monthly publication of the U. S. Department of Agriculture, has an editorial, "On the Air," in the December issue. He points out, among other things, the influence radio has on the consuming public. It is worth reading.

Dr. Harrison B. Summers, former public service director for ABC, and now professor of speech, Ohio State University, has been named acting director of the 1947 Institute for Education by Radio, to be held May 2-5. Dr. Summer's appointment was made necessary by the absence in Germany of the Institute's director, Dr. I. Keith Tyler.

Tracy F. Tyler, *AER Journal* Editor, has an article, "The University Administrator Looks at Radio," in the December, 1946, issue of *Minnesota Alumnus*, the monthly publication of the General Alumni Association, University of Minnesota. It is an abridgment of an address given at the Conference on College Radio, Stephens College, Columbia, Missouri, and indicates the administrative policies toward radio broadcasting at the University of Minnesota.

Adult Education Department, University of Wyoming, has taken out a membership in AER.

T. S. Cady heads Station KUOI, campus radio station at the University of Idaho, Moscow.

Paul R. Thornton, who has been director, educational department, RCA Victor, has resigned to enter the retail business.

The Chicago Radio Council recently completed a year of television experiments in cooperation with Chicago television station WBKB.

Madonna Todd, Station KQW, San Francisco, urges AER members who may be in the Golden Gate city to visit the elaborate KQW studios in the Palace Hotel, right on Market Street.

Robert E. White, educational and public relations director, Station KDKA, Pittsburgh, became manager, Station KYW, Philadelphia, January 1. Mr. White is a veteran of nearly twenty years' service in the radio field.

Student Overture is the title of a new Chicago Radio Council program series produced weekly on Station WBBM. The series provides high school students the opportunity to learn writing, acting, and production as well as radio's technical aspects.

Ruth Weir Miller has an extremely interesting and informative article, "The Philadelphia Story of Education by Radio," in *The Educational Record* 27:466-76; October, 1946. The article provides an excellent overview of broadcasting to the classrooms of the public, private, and parochial schools of Philadelphia.

Dr. I. Keith Tyler, director of radio education, Ohio State University, and one of the two past presidents of AER, left for Germany in late January as a member of a War Department education mission to help draft an instructional materials—radio, visual aids, textbooks, and the like—program for German schools. He will return in April.

Victoria Corey, assistant supervisor of public service programs at Station KDKA, has been appointed educational director, to succeed Robert E. White. Mrs. Corey has been supervising and writing scripts for KDKA's School of the Air, and has originated and written public service programs. In addition to her radio work, Mrs. Corey conducts a class in radio writing at the University of Pittsburgh.

WBBM-FM Studio Theater opened its doors to students of radio in sessions which began January 10. The plan, which involves the broadcast of adaptations of recognized literary works, followed by discussion in which high school and college students participate, is a cooperative venture between WBBM's Education Department, Northwestern University Radio Guild, and the Radio Council, Chicago public schools.

Gertrude Knoll, Sacramento, California, sent in recently five new AER memberships. **Earl F. Mennet**, Office of Superintendent of Schools, Oakland, California, is a new AER member.

Charles R. Denny, who has been acting chairman of the FCC, was made chairman by Presidential appointment on December 4.

Grace M. Johnsen, director of women's and children's programs, ABC, was appointed in early January to the post, manager, Continuity Acceptance Department.

The CBS Listeners' Guide, Winter, 1946-47, Number 65, appeared in early January. This publication should be in the hands of every AER member. Write CBS, 485 Madison Avenue, New York 22.

Richard W. Morton, director of audio-visual education, West Hartford, Connecticut, schools, reports a test television experiment, January 15, 16, and 17 at the Plant junior high school, West Hartford.

NATIONAL OFFICERS

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The Association sponsors Alpha Epsilon Rho, an undergraduate, professional fraternity in radio. **SHERMAN P. LAWTON**, *Executive Secretary*, University of Oklahoma, Norman, Okla.

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The Journal of the AER, published monthly except June, July and August by the Association for Education by Radio. Association and Business Office: 228 North LaSalle Street, Chicago 1, Illinois. Editorial Office, to which all material for publication should be sent: 111 Northrop Memorial Auditorium, University of Minnesota, Minneapolis 14, Minnesota. *The Journal of the AER* goes to all members of the Association. Annual dues \$2, of which \$1 covers a year's subscription to *The Journal of the AER*. The payment of dues entitles a member to attend all meetings of the Association, to hold office and to receive services. Send applications for membership to 228 North LaSalle Street, Chicago 1, Illinois. Advertising rate card sent on request. The Association assumes no responsibility for the point of view expressed in editorials or articles. Each must be judged on its own merits. Entered as second-class matter October 2, 1946, at the post office at Chicago, Illinois, under the act of March 3, 1879. The Association for Education by Radio is incorporated under the laws of the State of Illinois as a non-profit organization for the purpose of furthering the best interests of radio and education.

FEBRUARY, 1947

AER JOURNAL

VOLUME 6, NUMBER 6

TRACY F. TYLER, Editor

VIRGINIA S. TYLER, Assistant to the Editor

GEORGE JENNINGS, Business Manager

Success to Educational Television!

THE STATUS OF TELEVISION TODAY should interest no segment of the population more than it does the educators. Although television experimentation has been going on for a number of years, only the privileged few have had a chance to witness its use. Of those who have viewed a television image, a still smaller number have seen the latest black and white product, and a mere handful, colored television. Perhaps, as of February, 1947, television really is "just around the corner." At any rate it seems to this writer that the time has arrived when leaders from education, from the Federal Communications Commission, and from the industry should provide us with the results of their studies of this intriguing subject.

One of the important actions taken at the semi-annual meeting of the AER held in Chicago, October 22, was to authorize an AER Television Committee of which Paul L. Bogen, director of radio, University of Nebraska, and Elizabeth E. Marshall, program director, Chicago Radio Council, were to serve as co-chairmen. It was this committee which proposed the devotion of an entire issue of the *AER Journal* to the subject of educational television, and it has been through its efforts, particularly those of Miss Marshall, that the materials included herein have been secured.

Educators are frequently accused of being slow in adopting new devices and new methods. Someone occasionally claims that they have been "asleep at the switch" ever since radio broadcasting began more than twenty-five years ago. This argument is strengthened by pointing out that college and university electrical engineers and physicists pioneered in the construction of the first broadcast stations and that, since the high point was reached in 1925 when 171 schools and colleges held standard broadcast grants, the number has fallen until now only a small fraction of the 171 are on the air.

Perhaps educators should be slow in adopting new devices until those devices have been thoroughly tested and their values have been demonstrated conclusively to the general public. Today, perhaps more than at any time in history, those engaged in education, especially public education, have an important responsibility, a staggering burden, and completely inadequate funds with which to do their job. Nothing could impair their efforts quicker than were the general public to reach the conclusion that public funds were being used to finance expensive and elaborate ventures which were still in the experimental stage.

This does not mean that educators should hold themselves aloof from all new devices. They should read everything authoritative, to which they can secure access, on television as well as on other promising teaching aids. They

should be eager to carry on a modest amount of research and experiments where practicable. They should be willing to cooperate freely and sympathetically with responsible commercial organizations where such cooperation offers a reasonable probability of mutual profit. But they should not be expected to provide substantial sums of venture capital for television or for any other device or method until there has been conclusive demonstration to the educators and to the public that, through the new device, the process of education will gain substantially.

A careful study by each AER member of the articles which appear in the current issue should make him better informed concerning the progress which television has made, its probable areas of greatest usefulness to education, and the success which public school systems like New York, Chicago, and Los Angeles, as well as colleges, universities, and the industry have had in its educational use.

Chairman Charles R. Denny of the Federal Communications Commission believes that television "will be the most powerful communication tool of them all." Though his prediction sounds plausible, it must be put to the "acid test." The next step should find AER members assuming leadership in the program production and classroom utilization experiments which must be carried on increasingly in the immediate future. It is this type of experimentation, to which the cooperation of educators is indispensable, that will, in the last analysis, either confirm or deny Mr. Denny's prediction.

There is still much investigation and research to be completed in such technical aspects as equipment construction, propagation, and program transmission. The electrical engineering and physics departments of the colleges and universities will render substantial assistance to the industrial laboratories and private investigators in these areas. The carrying on of fundamental research and the determination of its application to technology are among the primary functions of higher educational institutions. The university scientists, whose contributions to radio have played such an important part in the past, can be counted on to render equally important assistance to the science of television.

The writer has high hopes for the successful use of television as an aid to education. He feels, however, that television faces the same danger that has reduced radio's educational effectiveness during its entire useful life: that the best brains and the most money will be devoted to its possibilities for sheer entertainment with the consequent neglect of its educational and cultural values. Our job is to make sure that education—the nation's most important enterprise—receives the maximum service of which television is capable.—TRACY F. TYLER, *Editor*.

The President's Page

EVERY TIME I THINK of television and its relation to education, I am reminded of a story George Jennings told me of how one of Chicago's younger generation reacted to his first television broadcast. Jimmie sat intently watching the screen, never for a moment relaxing a muscle. Suddenly he turned to his teacher and exclaimed, "How come all those little people have such big voices?"

Jimmie, accustomed to the "large" world of motion pictures, was evidently confused, but perhaps all of us, as well as Jimmie, will have to be educated regarding television techniques.

In 1937, when I witnessed my first television broadcast in London, some aspects of the medium were disturbing. On one occasion, one of the actors stepped slightly out of the focus of the screen, so that only half his person was visible. I wonder what Jimmie would have thought of that broadcast.

Although we have heard a great deal about television, few of us have had an opportunity to really experiment with this type of program. Last month I watched Jim Macandrew perform in a delightful school program at Grand Central Station, New York; and the students of Chicago have also had opportunities to experiment. However, it is to be hoped that members who live in cities where television stations are now operating on regular schedules—New York, Philadelphia, Washington, Schenectady, Chicago, and Los Angeles—will have greater opportunities to work in television and discover the best way it can correlate with educational systems.

Through the use of the facilities of commercial stations we have carried on experimentations in AM and FM broadcasting and, as we have done in the past, commercial and educational groups working together can learn much about the possibilities and limitations of television. We trust that through the *AER Journal* we may keep abreast of the times and aware of progress in this field throughout the country.

We, in education, are concerned as to how television can enrich the teaching process, so this issue of the *AER Journal* is devoted to television and

its relation to education. Later, we may be able to publish a television script. At that time we hope that you will enjoy reviewing the telescript and contrasting it with our radio scripts.

Variety says, "First trickle of television sets on the market points up the



necessity for a concentrated campaign backed by the entire industry to educate not only the public, but more important, the retail salesman as to exactly how television works . . . the majority of the public believes a television

Salute from Past President Kent

Ever since AER was organized in 1941, its leaders have been concerned about television. General public recognition of this concern is reflected in this issue of the *AER Journal*. Television hasn't come of age; it isn't just around the corner; nor is it a practical reality. However, everyone shares the feeling that television, when it does "arrive" for classroom use, will prove the perfect aid. It will combine sound and picture, not as at present in the excellent sound films, but with the added flavor of immediacy and pertinency which radio has always provided without challenge.

AER can advance a commonsense approach to the development of school television equipment and utilization through its columns. The present issue provides foundation for that.—HAROLD W. KENT, president, Kamehameha schools, Honolulu, T. H.

set works by merely plugging it into a wall socket, much the same as a radio, and the salesmen have no knowledge to pass on about the complicated and all important problem of correct installation."

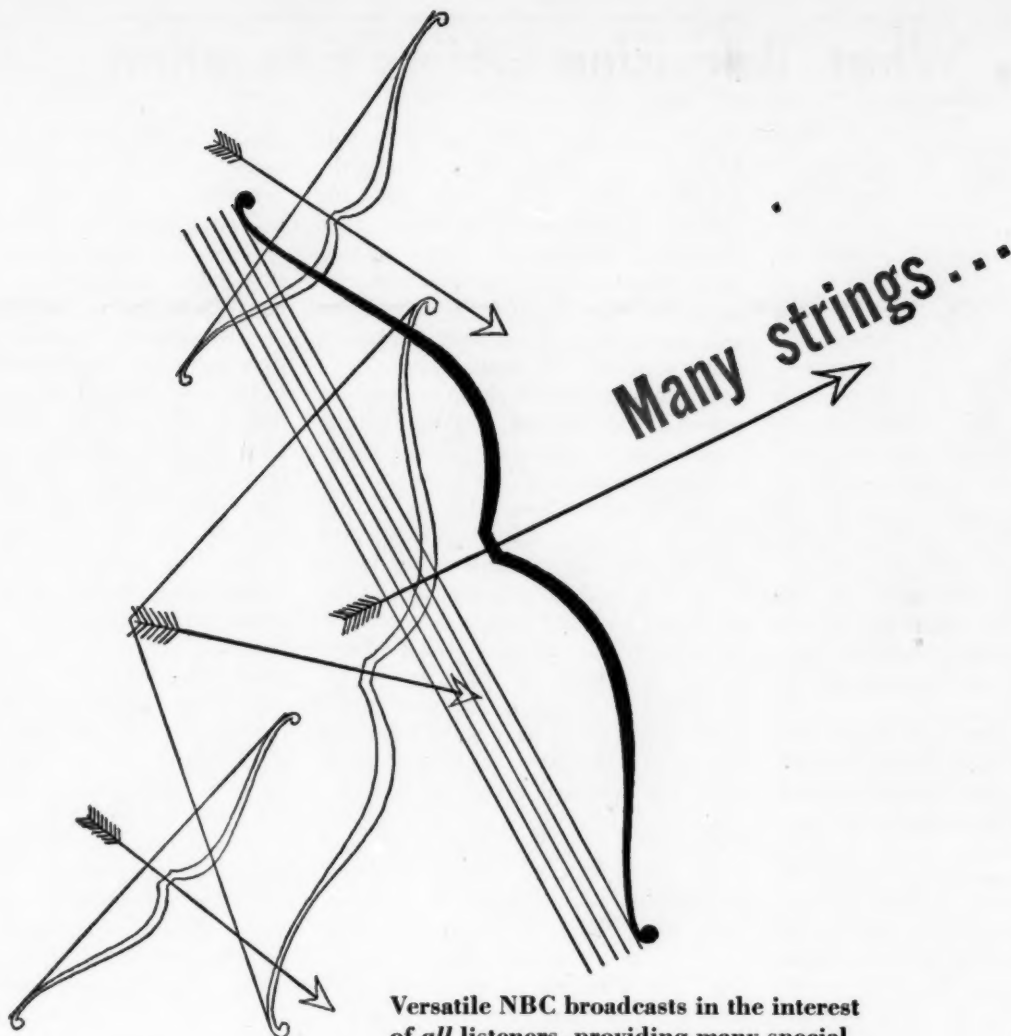
According to *Time*, "There are only 12,000 sets in U. S. homes, 13,000 fewer than in Britain. And the road to full set production has been blocked first by material shortages and of late by 'the color controversy. . .'. It is up to FCC to decide whether color shall be introduced now, with mechanical television, or whether it must wait on all-electronic development. Until FCC makes up its mind, few want to buy a television set, quite apart from the cost—from \$225 to \$2,500, plus a minimum \$45 installation fee . . . But the screen of television's future is not wholly dark: [1] a new, supersensitive pickup tube, four to five times brighter than its predecessor, makes candlelight do the job of a battery of floodlights; [2] construction of 44 new stations is expected to begin after FCC gives its ruling; [3] the Radio Manufacturers' Association says that the U. S. is ready to build from 330,000 to 360,000 television sets in 1947."

We appreciate the work of our Television Committee, the members of which have prepared the materials for this issue of the *Journal*. They are to be commended for the great effort they have made to keep all AER members acquainted with the highlights of the television field.—KATHLEEN N. LARDIE.

Kansas City School Broadcasts

As a feature of American Education Week activities, the public schools of Kansas City, Missouri, presented eighteen special broadcasts. Students, members of the Board of Education, patrons, civic leaders, teachers, and administrators participated.

One of unusual interest featured three generations of the Wornall family, the grandfather, Frank Wornall, 91, who had attended schools in Kansas City in 1861, the son, Julian Wornall, attending public schools in 1900, and his daughter, Charlotte, now a pupil in the fourth grade. The change and progress of the schools was noted.



Versatile NBC broadcasts in the interest of all listeners, providing many special programs for numbers of special groups.

With many strings to its bow, NBC has for 20 years been fulfilling its pledge to broadcast in the interest of *all* listeners . . . providing not only programs which entertain the great majority of the listening public but also programs which have a limited appeal enjoyed by special groups with individual requirements.

This wide range of special service broadcasts includes such musical programs as *The NBC Symphony Orchestra*, *Serenade to America*, and *Orchestras of the Nation*. Features of the NBC University of the Air are *Our Foreign Policy*, *Home Around the World* and *The World's Great Novels*. Joining these programs as part of NBC's United Nations projects is *Your United Nations*,

featuring issues currently under consideration by *The United Nations*. Religion of all the major creeds is served by the *National Radio Pulpit*, *The Catholic Hour*, and *The Eternal Light* . . . while public affairs' programs include such varied features as *Consumer Time*, *The Veterans' Advisor*, *America United*, *National Farm and Home Hour*, and *The Baxters*.

NBC devotes over half its hours-on-the-air to noncommercial programs of special interest to people with special tastes. Many more programs whose subject matter and presentation are in keeping with these, are sponsored by forward-looking industries and individual firms . . . thus NBC serves all its listeners.

America's No. 1 Network



... the National Broadcasting Company

What Television Offers Education

THE SECRET OF VISUAL EDUCATION is predicated upon the well-known physiological fact that impressions on the brain made through the eye last longer than those received through the ear.

Visual education has two inherent features which enable it to surpass ordinary means of classroom instruction. First, by means of close-up shots it can bring each student into the intimate presence of the exhibit or equipment which the teacher is demonstrating; and second, it will permit instruction by the finest teachers in the country who are masters of their subjects. To these features television adds the advantages of instantaneous and simultaneous reproduction available anywhere within the service area of the station.

In 1939, at the Israel Zion hospital in Brooklyn, about 75 doctors and interns viewed the intricate maneuvers of a surgeon performing a delicate operation in another building. The television camera was mounted directly over the operating table and by means of telescopic lenses, brought the observers to within inches of the actual operation. All agreed that the details of the operation were revealed with unprecedented clarity. As the operation progressed, the surgeon outlined to the viewers the various steps and precautions that were necessary. In no case was it necessary for him to step aside at the patient's risk, as would have been necessary had the viewers been seated in the operating room amphitheater. Furthermore, in the amphitheater the operating assistants would have at times obstructed the view which at best would have been from a distance of many times that of the television camera.

Television particularly lends itself to scientific instruction. Consider, for instance, the difficulty of explaining the intricacies of a modern gasoline engine if the student does not have a model before him for inspection. Consider also the great amount of scientific equipment that is too large, or too expensive, or for some other reason is unfeasible for bringing to the classroom except through television. Some time ago at a large Eastern university, about 100 students were attending an

important lecture in biology. A minute "smear" was under investigation by the professor, but there were not 100 powerful microscopes to permit each student to examine the exhibit personally. Two television cameras were focused on the instructor's microscope and every student at once became a partner in the examination.

All commercial television stations are potential educational stations in the broad sense of the word. This is borne out by a survey of the type of programs broadcast over the air during the past six years. It is readily apparent that the educational theme has assumed a major role. A large percentage of the programs has been designed to educate or improve the listener. Video educational presentations can be sugar-coated almost beyond recognition, while aural broadcasters have shied from this type of program for fear of losing audience. The National Broadcasting Company, in its brochure *Television's First Year*, lists "Surface Chemistry" and "Our Daily Bread" among its "hit" productions of the year. In addition, such films were televised as "The Progress of the Automotive Industry" and "The Progress of the Rubber Industry." The Don Lee station in Los Angeles has cooperated closely with the graduate school of the University of Southern California. Its programs have carried educational features on a regular basis. Some of the subjects have been drawing, pottery making, home building, and dress making. Also its instructional courses in golf, tennis, and other sports have been enthusiastically received by viewers. Humans are natural imitators, and the observation on the screen of a new and better way to do something is a challenge to the normal subject.

The United States Office of Education has circularized the education centers throughout the country and finds that there is keen interest in television. The greatest handicap appears to be the cost of equipment. Dr. R. R. Lowdermilk, of the above office, stated that with the introduction of the image orthicon, television for school instruction received an enormous boost. Until this new tube was invented, he said he was very pessimistic, but now that subjects can be televised with ordinary

classroom lighting, he feels that this medium of instruction is thoroughly practical.

One of the recognized education authorities recently expressed the view that television's greatest contribution would be in the conduct of standardized classroom tests. Educators have learned that there is a considerable variation in the time allowed, as well as the procedure followed, by different instructors in the conducting of "standard tests." For example, one instructor may observe that her pupils, for some reason or other, do not begin the test exactly as the stop watch is released, so she compensates by allowing a few moments extra time at the end of the test. Another instructor may explain the procedure to be followed in the test a little more lucidly so that certain advantages to the pupil result. The City of Cleveland now uses aural broadcasting to conduct these standard examinations and has found it highly satisfactory. The procedure followed is to assemble a group of representative students in a central classroom at the studio. All the other classes throughout the city are tuned in to this studio-class. The questions asked by the studio-class are representative of the type that would be asked by students of their teachers throughout the city. The studio-class teacher is particularly versed in the procedure of giving examinations. As a result, every student has the advantage of her proficiency as well as being placed on a parity with all other students. It doesn't take a great deal of imagination to visualize how much more effective this system would function if the medium of sight were added to sound.

The Chicago Board of Education has been one of the first to test the value of video as a means of classroom education. Its preliminary experiments conducted in cooperation with the Balaban and Katz television station, WBKB, have produced some rather spectacular results. It has been found that the interest of students can be maintained through a very scholarly and difficult instructive presentation by wrapping the program in a showmanly package. It is also apparent that while aural broadcasting is primarily useful in supplementing the classroom program,

television will go much further—possibly providing actual direct instruction. As the Chicago Board of Education has pointed out, sufficient data on the effectiveness of television in satisfying the rigorous standards of educational requirements have not as yet been obtained. First experiments, however, indicate that retentivity is extremely high, and teachers and supervisors have been very pleased with the results.

The General Electric Company has made an exhaustive analysis of the public reaction to various types of television programs as broadcast over its station, WRGB, Schenectady. It is anticipated by General Electric that during the next few years commercial television broadcast stations will schedule scientific and historical programs during the day when classes of various schools in the area, as well as the home audiences, can watch them. In the Company's opinion, most public school systems will someday have television stations of their own. Until that day, schools will want to supplement their classes and training courses with programs televised by regular commercial stations. They believe that the educational program *via* television can be so broad in scope and interest that it will appeal to the housewife, the father, and the children. It appears that the job of the television producer, therefore, is to make education visually palatable, to make it amusing and interest-holding as well as informative.

One of the interesting conclusions reached as a result of the audience survey at WRGB relates to cultural education of the general public. It was found that many homes were seeing photographic exhibits and art treasures for the first time. Hence it appears that this forced exposure will ultimately result in richer lives to large groups that might otherwise be culturally sterile.

General Electric has found that television is particularly well suited to demonstrate the "how to" arts. This type of program sets out to make learn-

ing easy and entertaining. Some of the subjects covered under this heading are cooking, care of children, gardening, sewing, bridge, and interior decorating. General Electric found that sports can entertain and teach at the same time. For example, Andrew Ponzi opened his telecast with a demonstration of eight fundamentals of correct billiards. The Remington Arms half-hour telecast on places and seasons to hunt included demonstrations of guns and ammunition.

During 1943, WRGB telecast a weekly series on Victory Gardens—from the preparing of the ground right through the growing and canning season. Gardening and food preservation problems were taken up as they occurred in the garden which was planted just outside the studio.

Morning exercise programs, although slightly astray from the field of education, are of particular interest because they illustrate a fundamental principle involved in television—the desire to imitate. Seeing someone else exercise, plus the rhythm of the music, creates a desire to do the bending and stretching in unison with the performer.

There are no frequencies allocated specifically to educational broadcasting. On the other hand, educators have equal opportunity with commercial interests to apply for the channels assigned to any particular area. At this writing, Iowa State is the only educational institution which has been granted a commercial television construction permit. Iowa State also has a license for a television experimental station, and Kansas State, Purdue, and St. Louis University have construction permits for experimental operation.

It does not appear that any of the above stations will be used exclusively for classroom education. The function of the experimental stations will consist principally of investigations and research into the technical aspects of equipment and propagation. It is frequently customary to broadcast programs in conjunction with this re-

search. An examination of the proposed programs of these stations indicates that they will be predominantly educational, but designed for consumption by the general public. For example, the St. Louis University's program for Monday runs as follows: fifteen minutes—Home Economics and Household Helps; thirty minutes—Great Documents of History; fifteen minutes—Scientific Discoveries for the Home. Tuesday: fifteen minutes—Home Nursing and Home Safety; thirty minutes—The Advance of Medicine; fifteen minutes—See America First. Kansas State proposes to telecast news, travel pictures, short skits by dramatic students, and oral and instrumental music by student groups.

In the past, the members of the Federal Communications Commission have been keenly interested in utilizing to the maximum the potentialities of radio as a medium for education. This interest will extend to television where a bright future is foreseen. In a recent speech before the National Association of Broadcasters, Charles R. Denny, chairman of the Commission, had this to say:

We are convinced that the American people want television and that they need television. Television will not be simply a luxury entertainment service. Its educational potential is unlimited. It will be the most powerful communication tool of them all.

At the present time there are six licensed commercial television broadcast stations, all of which are telecasting programs daily. There are some sixty-five others which are holders of construction permits or have applications on file.

In addition to the above, there are three experimental stations which are sending out programs on a regular basis. About forty others are holders of experimental licenses or construction permits, and are experimenting with equipment leading to the development of television broadcasting. Approximately half of this number is doing research in color.—GEORGE P. ADAIR, chief engineer, Federal Communications Commission.

Is Television Here?

WE ARE AN IMPETUOUS PEOPLE. A recent British visitor, quoted in *Readers Digest* [after a six-month tour of the United States] tells us that we are somewhat an extra-

ordinary people, for out of conflicting purposes—strikes, criminal violence on the one hand and great-hearted philanthropies and all-out altruism on the other—we add up to something like

chaos. Then, suddenly, out of it all, he says, we seem to bring order and serene confidence. This is not a far-fetched estimate of us. Of all peoples we seem to have gained control over

the machine rather than allowed the machine to become our master.

Television is a good example. From Baird television, consisting of revolving discs, emitting light at definite intervals—crude but practical and long in experimental use in Great Britain—we departed many years ago. Taking the principle of the electrical eye, scanning an object rapidly and scoring it in an opposite electronic mirror, we put the mirror into a tube called the iconoscope [by RCA] and proceeded to transmit that electronic photograph by means of varied electrical charges to another tube which received it in every detail identically in the same position and we had—television, without moving parts and, therefore, without wear and, moreover, without flicker. We added sound by microphone and radio receiver and we had both radio and video transmission! There is no doubt that Vladimir Zworykin, who also invented the electronic microscope, should be credited with the far-reaching development which has made American television possible. Allan Du Mont, Philo Farnsworth, Dr. Peter Goldmark, and many others have aided tremendously in the perfecting of the medium, which today is as satisfactory to the human eye and ear as the sound motion picture.

Television may be easily tinted. Black and white and grays can be turned into sepia shades or green or blue shades. It is likewise easy to produce television in natural color [or rather simulated color] which to the human eye is quite as satisfactory as technicolor or kodachrome. Dr. Goldmark of CBS was an early experimenter in color television, using the upper frequencies [beyond 70,000] for extraordinarily satisfactory results, including a much finer screening than was possible at the time in the then assigned frequencies around 50,000 cycles. Today, color has been adapted experimentally to many other frequencies but the public has not seen them as yet. Zenith has announced a color receiver which everyone is waiting for, yet it remains to be demonstrated just what advantages color possesses over black and white or tinted television. Obviously, color more definitely approaches reality but strangely enough, there are psychological reactions to pictures which are not always aided by reality.

Operating as it does in the frequencies formerly assigned to short-wave transmission, television has definitely limited areas of coverage. These frequencies ordinarily will not travel beyond the horizon line. Long ago, Dr. Alexandreson at General Electric transmitted television from Schenectady to Albany by ordinary light waves and today there is talk of meeting transmission difficulties at various centers, in the same manner. The usual horizon line exists at a 50 or 60 mile radius from a transmitter but when antennae are raised in height, the horizon line naturally widens and the area coverage increases. This is the reason why even airplanes have been requisitioned to act as supplementary transmitters in testing possible increases in area coverage. To date, however, the accepted form of transmission and wide network coverage is the coaxial-cable, fast being constructed to cover and link the large population areas of the country by the American Telephone and Telegraph Company. Coaxial and supplementary step-up stations are in operation today out of New York, central program center in television for the nation. History is repeating itself 20 years after, for this is exactly how the first radio networks developed, out of New York to the nation.

However, television and radio, both sometimes called one-way transmission are actually two-way media for not only may programs near the central transmitter be broadcast but programs occurring all over the nation [and world] may eventually be picked up and televised. The question is when will this come about.

Already there are at least 10,000 television receivers in operation. Du Mont receivers, the Raytheon receivers, the Farnsworth receivers, the Zenith receivers, the Stromberg-Carlson receivers, and RCA receivers for as little as \$350 are all offered to the public today. New York, Boston, Philadelphia, Chicago, Los Angeles, and Washington are regular points of program origination and dissemination. Twenty-three more stations have been granted licenses in sixteen states. Long ago Purdue University began television experimentation. Columbia University, Georgia Tech, University of California, and the State University of Iowa have all had lots of trial experience. The State University of Iowa has its own licensed television transmitter and no

doubt is preparing to program it during 1947.

The question of talent centers for television is not quite the same as for radio and motion pictures. The real talent of television, in the writer's opinion, does not exist in Hollywood, New York, or even Chicago or San Francisco. It exists in *people*, themselves, everywhere. The writer does not agree that television is show-business or advertising as we have known them in radio. Here is a medium if it is to rival pictures that must spend \$35,000 per looking minute on production [the average cost of a Class A picture, according to Commander McDonald, Zenith's President] and Commander McDonald, astute business man and engineer, asks "Where is the money coming from?" The advertisers ask the same question. Moreover, no one has yet proved that expensive shows may be repeated more often than radio has repeated them, which is far too seldom.

The plain truth of it is that television is essentially a news-photo and educational medium, two phases of its development almost yet untouched. It is, at its best, a Magic Carpet taking us to the place of a world happening *when it is happening*. It can likewise take us to Princeton for a visit with Einstein, to Finland for a concert by Sibelius, to Russia for a talk by Stalin. We need not guess any longer the facial expression, the gesture that emphasizes, the smile that disarms! We can tremendously increase our powers of observation now by *being present* at what is happening. This calls for a new kind of education in our schools.

This will not be the first time we have had to change our educational curricula and methods, by indirection. In the successive stages of graphic symbols and illustrations from hieroglyphics to printing and photography we trained the eye to encompass not merely objects but *meaning*. Since radio, we have trained the ear to listen attentively to much more than language or music, wherein we received our first impressions. Now we will have multiplied by the millions our opportunity to understand new situations, new trends of government, new vistas of science, never yet even offered to the most intrepid explorer or student traveler. The principles of the drama so simply shown in the Greek tragedy, the miracle play of the Middle Ages, the

motion-picture and stage-play of today resolve themselves into common experiences familiar to all of us. These principles are once more calling to us to be utilized. We stand at the threshold of another revolution in transmitting thought and ideas.

John Crosby, in an interview with John F. Royal, vice-president in charge of television at NBC, has this to say about television:

Television, he says, is similar to radio only in that both of them go out over the air. Television is commonly believed to be three times as effective as radio. That means the onlooker can wring the same amount of entertainment, education, news, or whatever out of 10 minutes of television as he can out of half an hour of radio. It also means it's three times as hard to hold an audience for the same length of time. Consequently, television shows may be shorter; the customary half-hour radio program may become a 10-minute television program, involving a radical redistribution of the time element on the air.

Television can't afford the waste in radio. Most radio stations operate from 16 to 24 hours a day. Much of it admittedly is drivel; even so, the immense amount of material that

flows out of the nation's radio sets in a single day can never be duplicated in television.

A television program will be infinitely more carefully put together than a radio show. Since even radio has to scrape the barrel for material, this means a television station probably won't operate all day long. Also there will be considerable repetition of good programs. Royal believes that a good program can be repeated many times to the same audience.

Technical costs in television will be so much greater that the medium won't be able to afford the star system of radio with its outside salaries.

It's an old saw in television circles that the cost of a television show will be five times that of a similar radio show. Royal thinks this is nonsense. An excellent television show can be produced for \$15,000 a week, which is about the cost of many popular radio programs, but the engineers and set designers will run off with more of the money than the artists.

This means television will have to groom its own performers because it won't be able to outbid other media for the entertainers. You'll tune in for the show rather than the performer.

Television programming, unlike radio programming, will have to be balanced. Today in radio, mystery dramas follow each other hour after hour on the same network. On

Sunday night over NBC, three of radio's top comedians are crammed into one two-hour period. This practice, Royal believes, would be disastrous in a visual medium where far closer attention is required.

He thinks a station's evening program should be planned along the same lines as the vaudeville program of old. A typical vaudeville program went something like this: A performing dog act, a dance act, a dramatic sketch, a song number, a spectacular number, a comedy act, the headline attraction—say, Al Jolson, and a spectacular finale. No two similar acts succeeded each other and Royal's belief is that the same practice should be followed in television.

Can anyone doubt that Mr. Royal is right in his considered judgment of television as a means of entertainment?

There is much more doubt to be cast once again upon the initiative of many educators who for years watched a much less complicated medium, radio, develop, and may likewise choose to stand by while television leads us back once more to Charlie McCarthy!—FRANKLIN DUNHAM, chief of radio, U. S. Office of Education.

Television's Place in the University Curricula*

TELEVISION IS ANOTHER FORM OF COMMUNICATION. As we now study the press, motion pictures, radio, drama, literature, public speaking, universities will, in the future, examine and perhaps train for television. It will be a part of general education because it is communication and any medium that conditions the behavior of large groups of people is a proper subject for study and training. The questions are whether television has touched enough people yet to warrant its inclusion in a college program and whether universities are equipped and adequately staffed to do a satisfactory training job. I answer "No" to both of these inquiries, but add that the "No" can be changed to "Yes" with a little help from both education and television.

The first thing needed is a common understanding as to what television in the curriculum really means. If the operators think of it as a quick and economical method for getting trained personnel, I am sure they are going to be disappointed. On the other hand, if colleges think of television courses as a way of getting students or proving to their alumni that the curriculum is

"up-to-date," I am sure, too, that their hopes are false illusions. To put the matter bluntly, I doubt if universities can train personnel or even arouse interest until their staffs know more about television. Since it will take some time to train professors in the skills, education-for-television must start with a general understanding of the place it occupies in the whole field of communication. Television training in the beginning should not be training in skills, but education for an understanding of television's present and potential possibilities—its social, as well as its business, implications.

That, in my judgment, is where colleges made their first mistake in attempting to teach radio. They assumed that they must teach the skill required in using a microphone and it would have been better if they had started classes on the meaning of radio—a study of the audiences and reactions to what they heard. Academically, the teaching of television should be done, in the beginning, by including it as a part of the existing courses. Classes in broadcasting, drama, sociology, government, and journalism are just a few of the commonly given subjects that—to be timely—should include material on television. And, incidentally, those

giving such courses should not, through promotion pieces, mislead students into thinking they are getting training in the skills!

Such an approach would have the effect of keeping a portion of the public informed. At the present time the average man knows of television only as he reads a news story, or sees an advertisement, or happens to have a friend who has a set. So far, the news stories are so conflicting, the ads so very promising, and the opportunities to see and hear so limited, people seem only to be confused. Somewhere there is need for the steadying influence of the impartial—even academic—approach. A professor may occasionally be impractical, but he is a steadying influence. This is generally true in the arts and sciences. We can poke fun at the "truth seeker" for we know he is human and subject to pressures, but in the long run he makes a substantial contribution in a specialized area.

After inclusion as a part of existing courses, and as soon as material warrants, specialized introductory courses in television, taken as free electives within the framework of a general education, might be given. These, I repeat, are not the skills but subject matter courses in television—classes whose

*Abridgment of an address before the Television Broadcasters Association Conference, New York, October 10, 1946.

purpose is to provide knowledge of, comprehension, insight, and understanding in the newest medium of communication. This, in my judgment, and speaking as an academician and outsider, is what this industry needs today, more than it needs *trained technicians!*

As things stand now colleges have neither the equipment nor the staff to teach the skills, and, with a very few exceptions, those that advertise that they do teach television are guilty of misleading advertising.

If such a position needs defense, may I point out that radio is more than twenty-five years old and only within the last few years has a set of academic standards been published, and it is doubtful if more than twenty schools meet these minimum essentials out of a total of over four hundred that have announced academic courses.

In the field of motion pictures, great advances have been made in utilization of classroom films, but relatively few colleges offer academic programs in the skills of making motion pictures and fewer still study the film as a social force. When a substantial beginning is made, there are plenty of signs that such courses will be on the appreciation level rather than in the skills.

And just to be practical, let's not forget that television in the curriculum must be approved by faculties—faculties that traditionally move slowly and accept change reluctantly; faculties that have complete trust in general education and corresponding distrust in skills training in new areas! These college faculties are going to be slow in approving television courses for academic credit.

On the financial side, the cost of teaching television as a skill is considerably out of proportion to what most colleges spend on radio or drama. How many colleges, even in these lush times, can afford a capital investment of \$75,000 to \$100,000, not to mention an annual operating budget of almost that much. The fact that a few, including my own institution, have plans is only because of the gratuities of others and these will not be duplicated on a broad scale.

Television education, in the beginning, should be a subject matter course that is made a part of existing courses. When the material and professors' experience permits, universities can and should provide specialized courses.

After that training in skills may be added.

If these observations are correct, it might seem that colleges will not be a source of personnel for this rapidly developing industry for some time. This is not true! Basic courses in the arts and sciences will continue to produce the better-than-average educated man! These men and women may present themselves at television doors with a sound background in the fundamentals of drama, music, radio, and pictures. Theirs will not be a superficial training in gadgets, but a fundamental education in areas that will contribute much to television. Until television is a separate art, why not continue to draw future personnel from fields that have been established and that have a substantial amount of reading material and professors with professional experience. Persons who understand the fundamentals of sight, sound, and show business can be trained easily by those in the business.

On-the-job-training will take up where the universities leave off. Until television's boundaries and techniques are more clearly understood, colleges, through general education, can screen and prepare persons in the related fundamentals.

So far I have tried to emphasize the need for a more common understanding between the industry and educators, particularly as to what television might expect from the university curricula. Neither should extend its lines too far today or it will reap the whirlwind in the pay-off years ahead.

If all of this seems ultra-conservative and lacking in immediacy and practicality, may I conclude by saying that the television industry can help us move toward a more rapid solution of the problem of trained personnel by accepting a few simple suggestions. Colleges and universities *can* train people for television *if* we have properly trained teachers and equipment. This means that the industry should either loan its personnel just to get things started or, if this cannot be done, then it should create internships in television stations that will enable us to send members of our staffs to stations for training. In the second place we will need equipment—preferably inter-tel or its equivalent. If colleges cannot afford to buy it, there ought to be developed, if possible, a

portable unit that might be made available on loan. With equipment and men trained through internship we might stimulate interest and make a modest start in actual training. In the third place, and at an early date, we should settle the question of whether we are going to have access to television studios as we have had access to radio, for unless the program is actually broadcast—and we can see the results of our teaching—it's only a laboratory exercise. It's like teaching horse-back riding without a horse—getting married without a bride. Theory should not be separate from the real thing and education-for-television will move much faster if programs can be coordinated with training. We will need access to studios—maybe not the same kind of freedom that has been permitted in radio but at least an opportunity.

Finally, the industry and educators should act immediately to set up a list of suggested standards for the teaching of television. They may not at once be enforceable but they will protect young people from being enticed into training programs that are not really training at all. Such standards will give universities some idea of the equipment needed and what they must do to get trained personnel. An idea of costs will scare many from putting their foot-in-the-door but it will help those who really mean business and they are the ones who should be helped anyway. A suggested list of standards for teaching television would be a material help in establishing quality at the outset.

Universities can be an integral part of television without being propaganda agents.

They have something to contribute in low-cost public service programs as well as in training and education.

Theirs is the job of making the listener-viewer conscious of television as a great social force.

Theirs now is the duty of preparing future personnel in the fundamentals.

Theirs, in the future, will be the job of offering training.

The industry can use a steady academic influence. With help there are a number of colleges and universities that will come half-way, but I doubt if very many will take the long walk alone!—KENNETH G. BARTLETT, director, Radio Workshop, Syracuse University.

The Industry Reports

Educational Research

THE AMERICAN TELEVISION SOCIETY is a non-profit organization, and, as stated in its charter, is founded to "advance, promote, and foster the study, understanding, and appreciation of television as a cultural, educational, entertainment, and advertising medium." In operation, ATS is an active, enthusiastic, fast-growing organization, composed of members who have made, are making, or will make their careers in this newest of media. The main body of its members are New Yorkers, although there are some loyal commuters from all parts of the East—and a few "mail" members from all over the country. Monthly meetings, luncheon discussions, and the all-important committee work are the backbone of ATS organization and accomplishment.

The Education Committee is one of the oldest and hardest working committees in the Society, which also has a Library Committee, Production Group, and Panel Discussion Group. The Education Committee is small—approximately twelve active members—but it is accomplishing so much work under the chairmanship of Edward Stasheff, New York Board of Education, that "voluntary effort" has now become a phrase with which to be reckoned. The Committee has three main aims, and its projects are geared to meet these aims: [1] To educate ATS members in, on, and about television; [2] To establish standards for educational shows on television, and to make these standards criteria for all productions; and [3] To check on educational advances made in, on, and about television by outside agencies and schools, and to coordinate these to best serve the public. There are four major projects under way to meet these aims, that were started in the Fall of 1946:

[1] In line with the Committee's aim to better educate the members of ATS, a survey is being made of television sets that are installed in restaurants, bars, and public places so that the general membership will be better able to see more television shows. At the present time so few members have their own television sets that there is a definite need for such a listing.

Regular viewing is encouraged by the Committee because better informed members make for a more active Society. The Committee also feels that if members are better acquainted with types and styles of current television programming and production, they will be more television minded, more enthusiastic, more critical, and will thus be able eventually to help set standards for television programming by knowledge and evaluation.

When this project was first initiated, mention was made of it in the *ATS News*, a monthly publication circulated to all members. The result was most encouraging—the United States Television Manufacturing Corporation sent us a list of all the spots in which they had installed receivers. Slowly but surely this list is growing—and as it grows it is published in the *News*. We hope to have more response from other manufacturers to help us in this project, although it is by no means a complete attempt to find all the sets in New York City. The production picture is changing and will continue to change too rapidly to make that feasible. This is rather an "interim listing" which can be used for reference until ATS has its own set available for members—or until that rosy day when all members have their own receivers! A side project growing out of this is a publicity campaign to encourage greater viewing. The *News* publishes the lists; it also cooperates by using such fillers as "Share Your Set!" "If You Don't Have a Set Borrow One—If You Do, Share It!" "View Regularly." The regular monthly meetings are also used as a time and place by the Committee to prod the membership toward these ends.

Amusing sidelights on this project came as the result of the female membership in the Society. Voices were raised in protest—an unescorted lady go to a bar, even to watch television? Never! But no date bureau has been established to encourage escort service. The Committee felt also, in a light moment, that it might be a good idea to personally check all these bars in order to make sure that all the sets were in good operating order. However, Committee funds were insufficient to carry out this project with any de-

gree of accuracy, so the motion was dropped.

•[2] To further encourage intelligent viewing, and to help the Committee in its search for educational television shows, an up-to-date program log is kept. This Log is a compilation of the television station schedules, limited to the three New York stations. The Log consists of shows which are programmed more or less regularly for a two-month period, and the shows that can be viewed currently or in the immediate future. The Log is made for the convenience of the general members who are not familiar with what television is currently programming—either in quantity or quality. It is also made for the purpose of encouraging more viewing, and is published regularly in the *News* under such a heading as: "Have you seen the latest shows this month? Know what new sponsors are on? What new programs are being developed? Watch the Log!" We hope to have this Log mimeographed and distributed at general meetings from time to time, as the newspapers keep up with such material only on a daily basis.

[3] Out of this wealth of viewing and from the program information which the Committee has assembled, a few educational shows have been spotted. They are "educational" shows by one or more standards—some in name only. For these the Committee has developed a yardstick for measuring educational television shows now on the air. [In our family circle we call it YFMETSNOTA.] This list is being polished and mimeographed, and it will be distributed this month to all Committee members. The work plan is to assign shows to each member for regular viewing and checking, evaluating the shows according to the standards we have established. If the shows seem contrary to fundamental principles of good education, our findings will be made available to the program producers. We may find that our Yardstick will have to be revised; it would not be a good Yardstick were it not flexible enough to meet the changes that each day brings in television. We hope that by encouraging good educational television shows, and good

children's programming, we can help the medium avoid many of radio's pitfalls in this category. Just how effective the Yardstick will be, and how widely it will be used, still remain to be seen.

[4] Our fourth project is one of the most ambitious and difficult to tackle, but one which seems to be needed. The purpose is to thoroughly investigate and compile a statement on the courses given in, on, and about television. The courses to be considered include technical, programming, and acting courses, in colleges, universities, technical and trade schools, and special courses given at any institution. The information gathered will include: statement of course aim; equipment available for student use; background of teaching personnel; availability of course, time, place, and cost, if any. To round up a complete and accurate list of such courses, and to investigate them, is a stupendous task, but one the Committee faces with some degree of equanimity.

The need for this listing seems apparent. Daily requests for information about "where to learn about television" are pouring into trade papers, television stations, schools and colleges, and Veterans Guidance Bureaus throughout the country—to individuals who have neither the time nor the information to provide an answer. This information will be compiled alphabetically and/or geographically in a card file to be kept up-to-date with each term or semester, for as the field progresses, the courses mushroom. Both the Society and the Committee feel that it is *not* advisable to rate or recommend these schools or courses in any manner whatsoever, inasmuch as we do not want to set ourselves up as a final board of judgment. A statement to the effect that the list carries no endorsement prefaces the entire project as well as all publicity and correspondence. The information will consist of statements from the school officials and/or catalogues, available to members and non-members, and from the information supplied, the inquirer may then make his own choice or decision.

A preliminary survey was made in order to ascertain the scope of the project and the channels and sources through which to work. Frederick Kugel, publisher, *Television Magazine*,

made a basic survey in the Fall of 1945, and was kind enough to make his findings available to this committee. From this source and others we secured the following data:

120 Universities or Colleges have curricula in Electrical Engineering approved by the Engineers Council for Professional Development. This list was released by the U. S. Office of Education through the Federal Security Agency in Washington. These 120 schools must be rechecked to determine if any of the courses they offer relate, in whole or in part, to television engineering.

70 schools give courses in technical radio and/or electronics. This list of "trade schools" was made by a Committee worker and must be integrated with the above list, rechecked for scope of coverage, and polled for information.

70 universities and colleges in the country now give courses in radio script writing and/or announcing, and it is possible that they are giving or are planning to give some sort of course in television. This group must be surveyed for further information, the list checked for duplication, and other schools in the same category must be discovered.

20 schools or colleges give courses in programming and/or technical aspects of television. These 20 are, in part, repetitions of the above categories; however, in each case we have a statement from the catalogue or administration. We wish to recheck these schools to see how successful their initial courses were, what changes they have made if any, and what developments are being planned.

In addition, we have a list of approximately 50 schools or colleges giving television courses which must be surveyed for preliminary information. This list was culled from general sources, and is growing daily.

There are also approximately 8 colleges or universities which have applied for, or are working directly with, television stations. These institutions have, of course, the greatest access to equipment, and should be important in the over-all survey.

In short, we have many lists which must be coordinated and duplications weeded out; new sources of information must be discovered, the entire list surveyed, and all the information compiled and categorized. It is a large task, but progress is being made on it rapidly. The project is growing in size and importance and many individuals with whom we have talked have evidenced great interest. Moreover, some organizations, which have done similar work in radio and thus appreciate the scope of the task ahead, have been most cooperative and are interested in our end results.

We hope that these projects will be continuing ones, but that the major work will be done on them by the end of this Society year. And we hope that these contributions will make the American Television Society even more vital and authoritative than it has been

in the past in all phases of television. —BARBARA E. JONES, secretary, Education Committee, American Television Society.

Problems and Possibilities*

THE SUBJECT OF TELEVISION will certainly be of engrossing interest for the student of human relations. Here we can foresee an innovation in the basic American culture, which may be expected to modify and change our daily habits and ideas, our social institutions, and our educational methods in a thousand unpredictable ways. It will be to our advantage, in understanding and utilizing the medium, to know as much about it as we can in advance in order to be prepared to observe and analyze these changes as they occur. We have a kind of anticipatory wisdom about such changes now because we view in retrospect the growth and influence of the press, the movies, and the radio. These developments were not foreseen, and their effects on American life had become history almost before we knew it.

Not so with television. This time we can, and probably will, be ready. As television develops the whole American public will evidently be on the examining committee. And the public, of course, will include market researchers and social scientists—our pencils sharpened, our calculators and IBM machines oiled and humming. I doubt that a moment of television's growth or the widening ramifications of its influence will escape critical notice.

These preparations for television are of course stimulated by television's extraordinary advance publicity. Nearly everybody seems to have obtained some information about the medium and has developed his own personal expectations. Unfortunately, much of the information is likely to be incorrect, and many of the personal expectations, unreasonable. Along with rumors and imaginings, the puzzling and contradictory reports, perhaps you have also heard more than the distant mutterings of ideological battles, adding uncertainty to the general confusion of the subject.

Those of you who have had occasion to become well informed about tele-

*An address delivered at the School Broadcast Conference, Chicago, October 23, 1946.

vision know what an exceedingly complicated subject it is. I could not pretend to offer a substantial clarification of television's tangled issues but I should like to try to present some of its major issues in wider perspective than they are usually given.

There has been a great deal of emphasis on the amazing engineering achievements involved in broadcasting a picture in motion. But from an objective viewpoint the television industry is almost as interesting and certainly a great deal more entertaining [a cynic might observe that the industry is more entertaining than its programs].

One of the first things the objective observer would notice is television's elaborate development on the verbal level. Certainly no one could deny that more time is devoted to talking about television than to doing it. Perhaps within a few years the amount of prophecy about atomic energy will have equaled that devoted to television in the last decade, but I doubt it.

A second odd characteristic: television is a commodity that is sold and resold without ever putting in an appearance. It reminds one of those mysterious transactions on the commodities exchanges in which people buy and sell next year's crop. In what other field could one find periodic market surveys purporting to show that several million people are ready to spend several hundred million dollars on a product they've never seen?

These and other curiosities of the television world all seem to be related to television's perennial nativity.

The other day I was glancing through a magazine which bore the subtitle "Official Organ of the Television Society." One of the advertisements it carried, announcing the publication of a book called *The ABC of Television*, advanced the slogan, "Yesterday's dream . . . Today's reality." The date of publication was November, 1928. This slogan has retained its vitality undiminished for 18 years—in fact appears to be the only surviving element, like a living fossil, from the days of the mechanical scanning disc.

According to a current quip, one television enthusiast says "Television is here," the other replies "What, again?"

All of these unusual conditions have been created by a peculiar dilemma in

the television field. It seems unlikely that any other major industry has faced the exasperating problem inherent in the development of television. This problem is in essence that television has to come into being as a commercial enterprise fully developed—mature in every element except absolute size. Although I don't profess to be an economist, it's my impression that most industries start from small beginnings and develop through a process of interaction with their market. A product is offered for sale, meets the competition of other products, becomes improved in quality and efficiency in response to public demands and competitive pressures, the volume of production increases and the price falls. Throughout this cyclical process the engineer, the designer, the salesman are constantly observing the performance of their product as shown by the reactions of the consumer.

Their reports, however phrased, are in the last analysis psychological findings. If their psychological interpretations of market reaction are sound, and the improvements they make give increased satisfaction to the buyer, the enterprise prospers; if not, the product fails and is withdrawn from the market.

Radio and the motion pictures appear to have gone through a similar process of massive trial and error and slow responsive evolution. Each had exceedingly small beginnings with a low-grade product, a minute capital investment, a rudimentary physical plant and organization, and a very small audience. Their growth came in a series of gradual improvements in their product, in response to public demand, accompanied by commensurate increases in plant, investment, and audience. At every stage the improvement on which future success depended was tested on the market.

In television the situation is quite different. Its problem is to establish a medium as nearly perfect as human ingenuity can make it, but in the absence of any mass market in which to test its qualities, expose its weaknesses, and tailor its product to public taste.

To use a biological analogy, television is required to develop through a vast process of mutation, rather than evolution. The reasons for this requirement are well-known: television must begin on a large scale. The initial cost of research and facilities is exceedingly

high. The costs of operation will be above those of radio. Large audiences must be obtained in the shortest possible time in order to justify the higher advertising rates required to support so expensive an investment. Before a sufficiently large audience can be obtained, the cost of television sets must be reduced as far as possible and this means mass production. We cannot, therefore, expect television to follow the course of, say the automobile industry, which got its start with expensive handmade machines and only reached volume production after many years of effort.

To attract an audience, television must meet the critical standards established by the movies and radio. Each of the latter provided a completely novel and unique service which was to a large extent exempt from comparison with any similar service. But television from the point of view of its audience is largely a synthesis of radio and motion pictures and will be judged in the same terms, and often by the same standards.

The magnitude of the gamble involved in deciding, at any given point, that the industry is now "ready," explains why people in television have had such strong feelings about it. The fact that decisions must be based on individual judgments within the industry itself, in the absence of convincing market data, opens the door to innumerable individual opinions. We have had a constant battle of authorities, each convinced of the correctness of his own position and none able to refer to an objective criterion.

In the last analysis the question is again a psychological one. Will a proposed television system satisfy the needs of the potential audience? But today the television audience is of negligible size [perhaps seven thousand families in five cities] and a substantial part of the audience consists of families connected with the television industry itself. We cannot, therefore, depend on this audience to give the answer. The industry's own composite judgment is still the last word.

After some twenty-five years of experimental work, the industry decided in 1941 that the time had come, and commercial standards were established. The war then intervened and no further commercial development was possible until very recently.

Today television is preparing to make its bid for popular support. A number of new applicants have been granted station construction permits and commercial licenses. Building has been delayed because of shortages and other obstacles, but presumably new stations will be on the air in the foreseeable future. Set manufacturers have recently demonstrated their new models. Volume production has not yet begun, however, so far as I know. Large numbers of receiving sets are promised for early in 1947. It may well be that within a year or so we are going to know whether or not the industry has made a happy choice in undertaking to launch television on its present technical basis. As educators, interested in what television has to offer you, you will want to keep an eye on the rate and magnitude of public acceptance of the medium from now on.

The major CBS contribution to the industry's constant effort to obtain the best conceivable medium has been, as you may know, the development of a system of television in natural color. A high point of this development came recently when, having previously given a demonstration using color film, Dr. Peter Goldmark and his engineering staff demonstrated live color pickup, employing a new color television studio camera.

We have great hopes for this new system. We have been greatly encouraged by the generally favorable reactions we have received from the press, and from hundreds of leaders of industry, government, and educational and cultural institutions. Although we too have to make our judgments about the new system without being able to throw them on to the scales of a vast market, we have gotten some favorable indications of probable public reaction by conducting tests with small samples of existing set-owners and representatives of the general public. Both groups have responded enthusiastically for color television in comparison with the standard black and white.

In general, we would advise you to keep an eye on color television, too. In our opinion color adds a most important element of satisfaction to the television picture. And in terms of production, whether for the educator, the advertiser, or the showman, color opens

up many new possibilities. The range of potential picture content is greatly increased. Since you are presumably more familiar with motion pictures than with television, consider the difference between black and white and color film in educational pictures concerning the various branches of chemistry, in which color is a criterion of reaction; mineralogy and geology, where it is a criterion of identification; and the graphic arts, in which color is an almost inalienable quality of the work, and so on.

Whether you have color or black and white, or both, will make some difference to you in developing the educational role of television, especially in the range of possible content, as I have indicated. But speaking on a more general level, some of the broad functions of television can be foreseen without reference to the question of color. Here I myself join the already overcrowded ranks of the theorists. I must say immediately that we at CBS television have had no direct experience with the use of television in formal education in the classroom. We have produced quite a number of television programs having a broadly educational content, but of course that's not the same thing as a formal educational series broadcast directly to the schools. My excuse for giving theories instead of factual data is that my purpose is not to promote television but simply to suggest some of the possibilities that you might keep in mind when you examine the problem of formal education *via* television more closely.

With respect to content, television cannot do anything that the film cannot do [unless, of course, we rule out color]. Since films have already been fitted into education, television does not offer something absolutely new, and in many instances it will be found that films are more useful. The two will tend to have complementary roles. [I speak here of film projection in the school. The films themselves can, of course, be broadcast as television.]

The special functions of television will be determined by the factors of time, circumstances, and economy. Time is the most obvious factor. Television gives you a picture in motion, and by direct pickup gives you the scene at the instant of its occurrence. There is no necessity for the time-con-

suming operations required in the processing and transportation of film. This virtue will be most useful in presenting current events, especially those that would become out of date while the film was being processed.

A second special advantage of television to the educator will be its local character. While detailed coverage of events of purely local interest would be uneconomical to the large-scale newsreel producer, it will be one of the chief and least expensive activities of the local television broadcaster.

The same economic factors that prevent the motion picture company from covering local events should apply to some extent to formal educational subjects themselves. The producer of educational films also must prepare his films for the widest possible market, and this may exclude subjects you are especially interested in and could use in classroom demonstrations. A suitable production might be staged at your local television station at very much less expense than a film would require if made especially for your use.

Television also offers a valuable accessibility to the educator. He may plan his program in cooperation with the local television producer, establishing a continuous working relationship impossible with the distant film companies. His own faculty and students can take part in the work. The resulting program, in addition to having a special personal interest for the students, will be designed to meet the individual needs of the school, the curriculum, and the students in every detail.

Television may have its disadvantages, too. The possibilities of live programming will be limited by the people and equipment available. The medium is limited in space in a way that the movie camera is not limited. It cannot give you travelogues or documentary coverage of any but local industries. If you should want to present an educational program on astronomy, and you have neither a planetarium nor a first rate astronomer in your town, you'll probably want to use film. [Of course, television could show the film for you if you like.]

You may find it inconvenient, in a large school system, for example, to have to get all your students together at one time. With film and projectors

you could arrange a more convenient schedule. It might be more convenient to use film if you needed to interrupt a program for quiz or discussion, or to repeat parts of the program for emphasis.

In regard to content, aside from color, it must be observed that television cannot now show you very fine physical detail. A big Philadelphia department store that had been experimenting with television merchandising reported that they found the medium not suitable for the showing of fashions in which "color, pattern, material, and details are among the chief assets." As you will discover when you see television for yourselves the present image is far from the quality of a standard 35mm film.

It may have occurred to you as I was describing some of the special values of television to the educator that I was talking about qualities that are inherent in radio; for instance, the coverage of local events, the availability of the producer, and the like. Yes, these are some of the radio qualities that television gives to the motion picture. And perhaps the suggestions I have made will encourage some of you to explore these qualities further when you have the opportunity. It will be the educators themselves, after all, who must do the most to develop television's usefulness in their own field.—DONALD HORTON, manager, CBS Television Audience Research Institute.

Training Directors

AT WBKB IN CHICAGO the motto for training directors has been "Every director a dolly pusher." This system of training was established by the station's founder and director, William C. Eddy, Capt., USN, Retired, and has proved to be not only successful but very profitable to the station and to the individual director.

This is the way the system of training works: When a potential director comes to WBKB, he or she starts to work immediately on the studio floor. The first job assigned is generally that of "dolly" pusher. For those who are unfamiliar with the terminology of television—a dolly is the wheeled base on which the camera and camera operator ride. Just because the job of dolly pushing is the first assignment for the

novice does not mean that the job is easy or unimportant; in the process of making a television picture no job is easy or unimportant. The dolly pusher must learn to work in complete accord with the camera operator; he must learn to respond quickly and to maneuver the dolly smoothly to any position ordered by the director. This is invaluable experience for a would-be-director because by doing the dolly pushing himself he learns what can and cannot be done in the studio. He also learns the necessity of giving directions clearly and precisely over the ear phones to the studio crew and should learn to be tolerant and patient, both qualities being fine assets in a television director.

The next step in the training of a director is learning how to operate a camera. Obviously he is not expected, nor is he likely, to become an expert camera operator since to acquire such expertness takes months of continuous practice. However, every television director should understand thoroughly the various types of lens and how each can best serve his purpose for a particular shot. He should also understand the different types of cameras [iconoscopes, orthicons, image orthicons] he will have to work with and learn the advantages of each for various types of work. He should learn to frame a picture quickly with an eye to composition. He should learn to follow objects without going out of focus, and he should learn to master the many problems faced by a camera operator during the progress of a show. This training as a cameraman is not just a

form of practice, since he is permitted to handle the camera on experimental and sustaining programs. This camera training again gives the director a practical background for planning and executing his own shows. Microphones are as important in television as in radio, though the handling is often much more complicated due to the fact that in television the mike is very seldom shown. The stationary mikes such as hanging or stand type are not a particular problem in the studio, but the "boom" mike requires expert handling. This is a mike which is hung on a long metal extension attached to a base which can be rolled to any part of the studio. The operator "riding" the mike must react to the performers so that he favors the one with the weaker voice; he must follow the movement of the actors and at all times be able to work quickly so that he will not obstruct the camera operations or appear, by mistake, in the picture. Again the trainee has learned how to handle some of the problems that arise with every new production.

The last studio operation to be covered is lighting. The lighting of a television picture is much more complicated than, for example, the lighting of a stage set. Television lighting is basically an engineering problem because certain types of cameras require definite quantities of light in order to send a picture over the air. The man handling the studio lighting must understand how to meet all the engineering requirements and at the same time be able to create an interesting and artistic picture.

There is no set length of time for



BEULAH ZACHARY, producer, WBKB [left], gives final instructions to a student participant [center], and ISABEL CALLVERT [right], staff member, Chicago Radio Council, in a production in the series, Young Chicago.

studio training, but the more thorough this training the better equipped the director will be for his job.

The final training takes place in the control room. There the future director learns how a show is coordinated. He learns to handle the sound consoles and turntables. He is taught the intricacies of the video console. This is the mechanism whereby the picture called for by the director is put on the line monitor and thereby sent to the transmitter and out over the air. In television there are several ways of using a picture. It may be switched from one camera to another, dissolved quickly or slowly, or one picture may

be superimposed over another. The director must learn which method is most suitable for his particular show, and there is no better way of learning than by doing. The iconoscope camera requires "shading." This, too, is a purely engineering process, but a director is expected to have a certain "lay" knowledge of the problems involved so that he will not plan shots that are impossible to execute.

During the entire training process the director is expected to watch shows at every opportunity. A great deal can be learned by viewing the picture off a receiver, both in what to do and what not to do.

When the apprentice director has absorbed enough practical knowledge, he is permitted to put it into use and start directing shows "on his own." Generally these are the simplest of sustaining shows and acting as his script assistant is one of the regular station directors who helps with suggestions if necessary. Gradually, when the new director gains confidence and increased ability in handling both performers and crew, he is urged to carry out his own ideas in production and becomes an active part of the station's programming department.—BEULAH ZACHARY, producer, Station WBKB, Chicago.

Experiments in Educational Institutions

New York City

THE PUBLICATION OF THIS ARTICLE will coincide with the beginning of the third year of television activity on the part of FM Station WNYE, owned and operated by the Board of Education of New York City. We still have no video facilities of our own, but our great good fortune has been the accident of our nearness to three active commercial stations, all of which have shown great interest in our problems and projects, and one of which [WCBS-TV] has been more than generous in encouraging the use of its facilities for cooperative broadcasts and in providing television training, in the process, for members of our staff and the gifted students who comprise our All-City Radio and Television Workshops.

In those two years, our students and WNYE staff members have been privileged to participate in the planning and production of four educational series. Although all were undertaken on a purely experimental basis, it is not without significance that two of those series are still running. One, "There Ought to Be a Law," has had twenty-five airings and won the Joint Award of the American Television Society as "the year's best educational program" in the nation for 1945-46. Another, the "All New York School Television Quiz Tournament," completes its tenth weekly broadcast, also over CBS facilities, as this is written, and will return to the air in March, probably moving

up from the junior high school to the senior high school area. Two other series, "Your World Tomorrow," produced in cooperation with NBC, and "The World We Live In" [not strictly a Board of Education series, but one in which one of our WNYE staff members and some twenty of our Workshop students had an active part] are no longer on the air. But as much from these two as from the programs which are still running, we have learned a great deal . . . principally in the field of what *not* to do, and it is both the negative and positive know-how which this article hopes to pass on to our fellow-workers in the video vineyards.

Perhaps it would be well to begin with the organization of television work in our city's schools. Television is under the general supervision of an Associate Superintendent, to whom report the seven members of our Television Committee. The Coordinator of Broadcasts is chairman of the committee, with the city-wide Science Supervisor, as co-chairman. Two other members of the WNYE staff serve on the committee, as do one representative each of the elementary, junior high and vocational high school divisions. Plans for new programs clear through this committee and then are referred to the Board of Superintendents for final approval. Then, actual field supervision of the telecasts themselves is placed usually in the hands of three committee members, who follow through on the broadcasts, occasionally "spelled" by other mem-

bers when the schedule grows too heavy.

At the network end, our relations with CBS provide a clear example. Cooperation begins with preliminary planning in conjunction with Ben F. Feiner, Jr., Acting Director of Programs for WCBS-TV, and is then passed for detailed preparation to Gilbert Fates of the CBS Television Program Department. Mr. Fates then calls in the CBS staff director who is charged with the responsibility of getting the series on the air, and these two work side by side with our Television Committee for several weeks or even months before a program format has been evolved. Then, after each broadcast, a quick "post-mortem" follows at once, with the six of us [three from CBS and three from the Board of Education] putting our heads together, pooling suggestions and criticisms, and evolving variations and improvements for the next broadcast.

This is the first "must," in our experience: a close cooperation between the professional broadcasters and the educational, with mutual understanding of each other's problems and zealous devotion to a common purpose . . . the creation of educational broadcasts which are pedagogically sound yet entertaining and attractive.

The second "must" we have grown to recognize is the old one of suitability of material and format to both content and performer. While no one can say as yet that there is *one* best type of program for presenting science,

for example, or *one* most effective format involving the use of junior high school students, it soon becomes evident that there are any number which are *not* suitable . . . at least, not on television. And so, in video as in sound broadcasting, there comes the endless hunt for an effective program type which is appropriate for a given content, group of participants, and intended audience. Here, if you will, are some of the things we have tried, and a few of the things we have learned.

It is our considered opinion [and that of the professional broadcasters with whom we have been working] that, in general, dramatic programming should employ adult professionals, while students should do the type of thing in which they do not compete, in the audience's mind, with the polished product of Broadway and Hollywood. It is a truism in video circles that the general public looks upon a telecast as a moving picture accompanied by sound, and the inevitable comparison with film is scarcely fair to television. This does not mean, however, that school participation must necessarily be limited to quizzes, forums, and exhibition-demonstration. Gifted student actors can hold their own *when they are playing students*, as in a classroom scene in "The World We Live In," in which adult professionals and members of the All-City Workshop appeared together most effectively. In general, however, children seem to be most effective on television when they are doing the thing they can do best . . . far better than professional children or adults . . . and that is just being themselves.

Yet a solid diet of classroom scenes is not to be recommended, if we may judge from a CBS Television Audience Research Institute report on one program using that format, in which viewers expressed some resentment at being transplanted into the classroom situation. Straight educational material seems better received when set in limbo, directed fully at the audience, yet given the aid of dramatic dialogue, of familiar characters to whom the factual content of the program is important. This seemed especially true of two science programs on *The Atom* and *Theory of Flight*, respectively.

Forum and discussion programs develop audience satisfactions not so much from the profundity and wisdom

of the opinions expressed by adolescent participants, of course, as from the charm and appealing sincerity of the young participants. As one director put it, "Teen-agers are 'camera-bait'!" It was to be expected, therefore, that topics made all the difference in "There Ought to Be a Law," a high school congress of two representatives from each of fifteen high schools. When our "representatives" introduced and debated legislation in which they had an immediate stake [lowering the national voting age to eighteen, universal military training for eighteen-twenty year olds, the abolition of athletic scholarships in college, etc.] the program had point and merit. When, however, they ventured to debate control of the atomic bomb, for example, they were in waters which had proved too deep for their elders and over which they had no special right to sail. The program level dropped appreciably.

In the production of the All New York Junior High School Television Quiz Tournament, we ran into the problem of training the twenty faculty advisors of the competing school "teams" in the techniques of television quizzing. A mimeographed manual was prepared and distributed to the school "coaches," since the whole concept involved having each competing school prepare the questions which were to be posed to its opponent. The faculty advisors were also given a demonstration in the WCBS-TV studios, intended to familiarize them with the problems of question preparation

for a visual medium, as well as of graphic techniques suitable for the iconoscopes. Despite the intelligent cooperation, sincerity, and hard work of the various competitors, many questions still required considerable editing to get them out of the purely verbal pattern so familiar to us all from radio quizzes, and art work frequently required re-touching to ensure heavier outlines which would be seen when televised.

For the spring bracket of the tournament, probably conducted among twenty selected high schools, we expect to issue a new and revised manual, and hold another training session in the studio. But on this occasion we hope to be able to use the best and the worst of the material submitted in the fall to guide the new faculty advisors. If possible, the art work [all done by students of the competing schools] will be picked up by a camera and shown to the faculty advisors on a floor monitor, so that the teachers may see for themselves why certain values do "come over on the tube" while others do not.

We have also learned that it is necessary to temper the wind, since our zealous young contestants think up questions that would tax the powers of a team of six Ph.D.s, each an expert in his own subject area. On the senior high school level, the questions and instructions may be issued by student "captains"; with junior high school pupils we soon found that lowering the microphone to the point at



Station WCBW, CBS video outlet, televising a program, There Ought to Be a Law, high school discussion program selected by the American Television Society as "the best educational television program of 1945." This is one of the programs produced cooperatively with FM station WNYE, Board of Education, New York City.

which it would pick up the frequently frightened voice of a thirteen-year old severely limited camera movements on long shots. The alternative, to ride the mikes at normal height, meant that the home audience might and often did miss key words in the question, which seriously impaired one important satisfaction from viewing a quiz: the viewer's effort to answer the questions before the participants could do so.

We know, too, that it is essential to "warm up the teams in the dug-out before they run out on the field." Quiz contestants are given sample [and easy] dummy questions to try, chiefly for routine and to get them into a healthy frame of mind. Discussion programs need rehearsal, but preferably not on the topic to be discussed on the air. Once we have tried a topic with our student congress, preferably two weeks or ten days before the air show, and have determined its suitability, we shun the actual topic and use "dummy subjects." These, frequently light and trivial matters, are used at the dress rehearsal, which is chiefly for camera men, since the actual program is *ad libbed*. They are also useful in a half-hour's "warm-up" just before we go into the studio to get jaws and minds to working smoothly, and to make instinctive such technical matters as waiting for recognition, rising to speak, "cheating" or favoring the camera on the air, and avoiding *ad hominem* rebuttal. When such matters become second nature, our young participants can devote full attention to listening critically and basing their rejoinders on previous argument—genuinely *ad lib*!

It's a long road we have set our feet upon, and we have just begun to learn. All new schools are being provided with outlets and connections for television receivers, as they are being built, but the receivers themselves are still around that corner. Our video rehearsal room at WNYE lacks even the dummy cameras we have so enthusiastically designed. But these things are coming, and meanwhile it is a great source of satisfaction to have a network continue to show enthusiastic interest in working with us, to have reviewers in the trade papers consider our programs on absolute and professional standards, and to find that we are slowly building a public which turns to our programs by preference. Madly

onward!—EDWARD STASHEFF, director of television development, Station WNYE, Board of Education, New York City.

Chicago

THERE IS A TENDENCY, as is so often the case in the use of a new medium in education, to look upon recent school video experiments with too much "sweetness and light"—a tendency to go overboard in their praise, simply because these experiments are among the first of their kind. Perhaps much of the awe, gushing, and praise are due to the fact that so little is known about television for actual in-school use. We know that the reaction of many outsiders who have heard of the Chicago public schools' experiments with classroom video has been one of being duly impressed—a sort of "Isn't it WONDERFUL! Think of it, TELEVISION is being used in Chicago's schools!"

We who have worked with the experiment try to be honest in our evaluation of its results. To be frank, we don't know whether it's "wonderful" or not. It was a lot of hard work, from which we feel we gained much and learned a lot. Many of our experiences were decidedly worthwhile. On the other hand, were we to have the opportunity again, there is much that we would do otherwise.

For one full year, the Radio Council of the Chicago public schools cooperated with the local television Station WBKB in presenting three series of television programs. One of these was the *Treasury Hour*, to which we contributed elementary and high school student talent in promotion of the various Treasury Bond and War Savings drives. Members of the educational staff of the Board of Education were often included in these programs, too. All in all, this program-participation was of value in acquainting us with the medium, giving us a first view into the techniques of television production. Since it required a minimum of preparation [we furnished the talent-ideas and the Treasury Department adapted them to television, based and wrote the scripts on them], this program series served to introduce us to television. Program types were varied each week, including dramatic skits, interviews, original verses and

songs, musical talent, and other forms of presentation.

Our second series was the *Young Chicago* high school talent show, a program strictly of the entertainment type. In the first semester, each week's program drew on high school talent from various city high schools. Students were auditioned in our Radio Council studios where selections were made to provide varied and balanced program units for each performance. These units then were called to rehearse at the WBKB television studios where Producer Beulah Zachary "polished" the numbers, adapted them for televising, added or "cut" where needed, and otherwise prepared the program for the actual telecast. These programs were of the "variety" kind—singing, dancing, puppetry, ventriloquists, jugglers, acrobats, musicians, dramatizations and such—typical "teen-age" talent. Miss Zachary was particularly clever in bringing out the best these students had to offer, and much credit for the success of these programs goes to her understanding work and patience with our teen agers.

During the second semester [September, 1946] each week's *Young Chicago* program featured the talent of one Chicago public high school. Instead of mixed talent from many schools, each school selected and prepared a unit representative of some outstanding activity of the student body at that school. One high school chose the inauguration ceremony of its Student Council; a commercial school followed the development of the "ideal business girl" in her training at the school; a girls' technical school demonstrated hair styling, cosmetology, and other beauty techniques; another high school chose to have its art department represent the school in an interesting demonstration of cartooning, chalk talks, and crafts work; drama classes presented television adaptations of class plays; we saw club meetings, were invited to debates and fashion shows, and followed other high school activities.

Now these programs were left primarily to the high schools themselves, where the selection, timing of units, and rehearsals took place before the studio rehearsals at WBKB. Some were excellent; some were only fair; and some were really poor. Here again I think the lack of time for sufficient

school and studio rehearsal was often the primary difficulty. We are new at television and cannot be expected to produce a "hit" with each school's initial attempt.

With the second semester of the *Young Chicago* series, we began to notice the first "shying away" of interest on the part of the television station. These programs began to be more and more concerned with our own school audiences than with the general television audience. The television station and the sponsor had been more satisfied with the first series' type of program—the strictly "entertainment" kind, with more glitter-glamour, more costumes and properties, and that sort of thing. They felt that some of the schools were getting "too serious" in their accounts of what went on at their schools; they felt that we should go back to the vaudeville type of program and cater to our general audience. On the other hand, we had discovered that these school-unit presentations were excellent "public relations" television programs, in fact the very kind of out-of-school television programs we might like to do in the future, interpreting our school system to the community.

Here came one of our first "clashes of opinion"; yet we stood our ground and finished the series as we had planned. With each of these "public relations" programs, both station and sponsor became less and less interested in us. We just weren't interested in the same kind of program, and at the end of the series they were through with us. We had been good "filler" during the period of station need, but now they were growing and gaining in sponsorship, and their interest in education seemed to dwindle.

Not all the blame for the program failures of this series can be laid to the schools. They were willing, eager, and cooperative. Of course they did not know how to write for television! It seems to me that were there only more time for studio conferences, a chance to do a re-write *after* studio try-out, and more time for rehearsals, many of the failures would have been avoided.

We must remember that these are new ventures in television, by amateurs. To me, much of the charm of an amateur performance is in its crudeness, the mistakes, the lack of polish—just as the true charm of children is in their lack of sophistication. Yet the very programs popular with the station

and sponsor were those that were closest to "professional sophistication!"

Let us be honest in these "experiments" in educational television. We attend numerous institutes and conferences where members of the industry challenge the educators and ask to what extent the industry may rely on the educator for full cooperation in the planning and production of the educational television program. And we who are educators challenge the industry and ask to what extent the industry will help us to program in-school television. Yet, how many commercial stations are willing to really "experiment"? How many commercial stations would be willing to try out the programs that may—will—fail? Or must every try in our experiment be a glittering success? How can we truly explore television's possibilities for education unless we try our many ideas—fail and succeed—succeed and fail? Any comprehensive experiment is known to produce many failures for each success.

At the same time, who is to be the judge of the program's success or failure? The studio personnel? The sponsors? Or those for whom the program has been planned—those teachers and students for whom the programs are intended? Many an evaluation [all Radio Council television programs have been evaluated by students and teachers viewing same] has proved that a program judged a huge success in the production studios has failed in the classroom; and likewise, many a program that has been judged a failure in production has been a success in the classroom.

A View to Education, our third series of television programs at WBKB ran concurrently with the second semester of the *Young Chicago* Series. This was a commercially-sponsored in-school series of fourteen programs planned for actual classroom use. We plunged into this series hurriedly, again, with only three weeks to plan and outline our programs.

From the start the producer assigned to these programs had definite ideas for its production. His original plans called for a series of all-science programs, high school level. He wished to use professional talent in the producing.

Naturally, the Radio Council wished to make the most of this opportunity for trying an in-school television series, so we held out for programs that would bring television to the elementary school as well as the high, from kindergarten through senior high. Too, if this was to be an experiment in the fullest sense of the word, we should attempt several subject areas—not only science, but literature, social studies, art and music, home mechanics, and others. One more request [and unfortunately, with each of these requests we made ourselves increasingly unpopular with the producer], we preferred using school talent—students, teachers, and field experts—to professionals, for we knew that this would be our situation when we would find ourselves engaged in educational tele-production of our own in the future. Thus we might put our own problems to the test.

Since our sponsor was interested in basketball, we were asked to place as much emphasis as possible on athletics



Kindergarten children, Seward elementary school, Chicago, meet Mr. Postman in a primary social studies telecast in the series, *Meet Our Community Helpers*. Child's painting of the postman at left.

in this series. We did include one physical education program. But I am afraid our producer went at his job rather half-heartedly when he realized we were not in accord with many of his views. In standing our ground for our own convictions, we lost in valuable production assistance.

Most successful [again judging from the student-teacher evaluation reports of the telecasts] programs in this classroom series were the "how-to-do-it" kind of programs—those that explained in detail how to make Christmas tree ornaments, how to create a masque, the performing of a difficult experiment in science, the Fire Department's demonstration of the prevention and control of fire, demonstrations of cooking and sewing. These were program "naturals" in which there was a pleasant fluidity of audio and visual which made for interesting viewing. In other program instances, there were times when one felt the intrusion of the video—when inadequate pictures or charts interrupted and detracted from the spoken word and the interesting features and live responses of the student participants. Certainly the visual is not justified unless it adds to the spoken word and strengthens the interpretation.

"Viewing centers" were set up in two schools, with two television receivers in each: The Goudy elementary school and the Lake View high school. These, along with the downtown center—the viewing room of the television station—provided three centers where different classes of different age groups viewed each week's telecast. All television receivers were on loan to the schools.

We are indeed grateful to Station WBKB for the opportunity of trying our hand at television, but I'm afraid we were as much of a "head-ache" to the station as sometimes the station's ideas seemed to us. In the first place, we found ourselves in this project without time to do a careful job of planning. Somehow, we had thought that the station would attend to getting the script ready for televising, and the station thought we would do it. It was just that in the rush of getting the series underway, responsibilities had not been definitely fixed. In the future we will have definite understandings as to who prepares the outline, who is to write the final script, and so forth. In

this way we will avoid the embarrassing situation with which we were confronted: We seemed to get the whole thing "in our laps" as it were; we had counted on help with the television adaptation, of which we knew little; we needed help with the script writing, of which we knew less. But since we had dared to differ in our plans for the series, it became all ours.

"All ours!" Yes, I think that educational television like educational radio, resolves itself to but one answer—our own studios and our own station. Only then can we experiment fully and adequately; only then can we produce the kinds of programs we want to produce. Few commercial stations are interested in in-school educational programs as such. They seem to want programs where ALL participants are "cute, clever tricks"—eye-arresting, telegenic, potential "Quiz Kids." But children as a whole are NOT like that, and it takes a clever producer indeed to catch their unsophisticated natural charm, their emotional reactions, and spontaneous response. ALL children can be interesting, and again it takes the clever producer to find and bring out this inner quality. And if the producer is to be in charge of programs for in-school use, then he must know the classroom situation in addition to his knowing and LIKING TO WORK WITH children. He must be kind, patient, and persevering to bring out their best. Nervousness and irritability but reflect themselves in the student-performers.

Why were our children of the television audience so delighted with the simple programs which the studio was not even enthused about? Perhaps because they were seeing their own kind as performers—kindergarten performers for kindergarten programs, high school students in the high school presentations. One of our most delightful [and successful] television programs of the *View to Education* series was the Kindergarten-Primary *Meet Our Community Helpers* program in social studies, wherein performing students from the Seward elementary school "met" a policeman, fireman, and postman [see cut]. This was one instance in which the producer made the most of the children's mannerisms, happy faces, and live reactions. The children's own paintings provided the visual illustrations.

All in all, our television experiment HAS been of great value. We know now how a commercial station looks at in-school programs. We know the kind of programs we'd like to try more of, and we've many plans for a student television workshop, complete with "dummy" cameras on dollies to help us iron out some of those pre-studio difficulties, and with a special high school art group to work out our backdrops and other properties in the right colors and values. There's so much we could do, but who wants to give us a chance? Are television stations licensed "in the public interest, convenience . . ." too?

We have learned that television is an exciting medium for classroom use; its possibilities for education are limitless; and we want to be among the first to take advantage of these benefits. We are looking forward to the time when the Radio Council may have its own television studios, station, and mobile unit—a time when we shall not have to worry about sponsors' interests in basketball, pills, or other products. Only then can we experiment to our heart's content; only then can we bring to Chicago's in- and out-of-school teleaudience groups a full schedule of worthwhile educational programs.—ELIZABETH E. MARSHALL, program director in charge of television, Radio Council-WBEZ, Chicago public schools.

Los Angeles

THE LOS ANGELES CITY SCHOOLS in cooperation with the Don Lee Television, W6XAO, are conducting a series of educational telecasts under the direction of the writer—a Los Angeles school teacher and AER member.

Maurice G. Blair, assistant superintendent in charge of curriculum, is keeping a watchful eye on this project and plans to evaluate its contribution to the over-all school program.

Harry R. Lubcke, director of the Don Lee Television, is very cooperative with school people and gives of his time freely in developing educational telecasts. As a guest speaker at a recent Phi Delta Kappa meeting he said: "Television is destined to become a major factor in education. We need the help of educators. The doors of television are now open to you—come in!"

The first telecast was a memorable one. The thrill of this 1946 extra-curricular program swiftly approached its climax at 6:00 p. m. as the 42-passenger Los Angeles school bus sped around the sharp curves and goose-neck turns as it reached the top of Mount Lee in Hollywood. A quick glance at the panorama revealed the city of Los Angeles spread out below. The magnitude of the beach cities and the sun slowly setting into the blue Pacific, gave our small group of students and teachers visual proof that education is no longer confined to the four walls of the classroom.

Soon the make-up room became a verbal bee-hive of activity as the Max Factor experts began to transform each student into a Hedy Lamarr or a Van Johnson.

At seven, all were present on the sound stage. After a comprehensive "briefing" rehearsals continued until "video" time. Once the telecast starts, the program director may rest as it is impossible to prompt or give directions and be seen behind the glare of studio lights. The students having once memorized their scripts are, in addition, taught to *ad lib.* each other back onto the script in case someone makes a mistake.

Plans for an educational telecast start in the classroom with students participating from start to finish. The benefits derived from a telecast must insure a better teaching and learning situation in the classroom. Results so far show a marked increase in motivation to learning, better control of speech and personality, and a voluntary desire on the students' part to do something real and vital for "dear old *alma mater*" in addition to the regular assigned school work.

The script is developed by the students under the supervision of the television coordinator. Conferences and bulletins sent among school officials, principals, teachers, and parents keep all concerned informed as to the content and objectives of the telecast.

The accompanying picture indicates one type of experimental telecast that has been presented: the making of a life masque. A quick setting dental plaster was used. The Art class also demonstrated modeling, glazing, and firing.

The Boy's Physical Education class gave an exhibition of bar work and

calisthenics. Also, they performed some difficult tumbling stunts and human pyramids. The Spanish class presented a fiesta dance. The Spanish-to-English description of their costumes and customs with audience participation high-lighted this act. The Music class sang songs in groups, trios, and solos. Since live orchestral arrangements are banned in television, the music department made recordings of the theme song and incidental background music.

The telecasts on schedule for the remainder of the school year 1946-47 include: "Plastics," "Dramatics," and "Corrective Physical Education."—GLENN N. GARDINER, radio and television coordinator, Los Angeles city schools.

Creighton University

CREIGHTON UNIVERSITY, Omaha, Nebraska, inaugurated its cooperative television experiments with WOW, local NBC outlet, in December when the station installed complete television equipment in the University auditorium. Two image-orthicon cameras with control units, power supplies, and switching unit were installed along with several ten-inch receivers. For the present none of the programs will be broadcast; they will be carried only by coaxial cable to the receivers in the auditorium and in other buildings on the campus. The central location of the auditorium, however, will permit wide experiments with both cameras and receivers in the various schools on the Hilltop campus.

Joe Herold, chief technical supervisor of WOW, is in charge of the engineering crew; Russ Baker, WOW

production manager for television, of the production crew. The Rev. R. C. Williams, S. J., acting director of radio education and faculty moderator of the student Radio and Television Guild, will coordinate the work with university activities.

The first aim will be to master the sight-sound medium through a wide variety of experiments. Most of the work will be extra-curricular, though it will tie in with classes in radio speech, continuity, and production, dramatic art, commercial art, and advanced drawing and painting. Talent will be drawn from the student Radio and Television Guild, which has 135 members divided into groups according to primary interest. Most active is the writers' group, which has been experimenting with all types of telecripts, including commercials.

Several educational series are in the planning stage. One is a modern language series based on the special classes for children from 6 to 12 conducted on Saturday mornings by Delizia Rindone, instructor in modern languages. These should be especially adaptable to television since Miss Rindone teaches vocabulary by having the students draw pictures on the blackboard to accompany foreign words. Television may thus be made a very effective means for teaching numbers of children foreign languages at a sufficiently early age that they can become proficient in them. Hence television may help to solve one of the major problems of UNESCO.

The graphic arts series planned will be on the adult education level. The aim will be primarily cultural, but the commercial side will not be neglected.



Students in an art class, Los Angeles city schools, being televised while making a life masque.

History students will cooperate with journalists on experiments in television documentaries. It is hoped to devise procedures to avoid the stereotypes into which radio documentaries too frequently cast themselves—so frequently, in fact, that they can now be successfully satirized.

Students of literature and religion will attempt to give authentic reproductions of the steps by which modern drama evolved from the liturgy of the Church. Karl Young's monumental *Drama of the Medieval Church* will be the source book. Liturgical problems will be solved by the Rev. Gerald El-lard, S. J., professor of liturgy in the St. Louis University School of Divinity, who has agreed to act as consultant.

Various methods will also be tried for televising regular classes. It is planned to begin with experiments in the sciences and with discussion periods in philosophy.

In-school viewing will be tested next semester when receivers connected with coaxial cable will be tried out in classrooms in the Creighton College and in those of the Creighton University high school, which is located on the campus.

As soon as the techniques have been sufficiently mastered, demonstrations will be held in the University auditorium for teachers and students from colleges and high schools, public and private, in the Omaha area. If it is possible to overcome technical difficulties, these demonstrations will begin with the televising of the *Professor at the Breakfast Table*, current series of the Creighton University of the Air, which has been carried regularly over WOW since 1930. At present, of course, only

the sound will be broadcast; the discussion group will be seen only on receivers connected with coaxial cable.

The Creighton television committee includes the Rev. R. C. Williams, S. J., chairman; Dr. Daniel Sullivan, director of the department of education; Edwin Puls, assistant professor of speech; Daniel O'Connor, instructor in English and speech—all from the University faculty; and the Rev. Raymond Strange, S. J., director of audio-visual aids for the Creighton University high school. They will cooperate closely with

the engineering and production crews under Joe Herold and Russ Baker of WOW.—R. C. WILLIAMS, S. J., acting director of radio education and faculty moderator of the Radio and Television Guild, Creighton University, Omaha, Nebraska.

Cincinnati, Ohio

Wilbur Sunday Lewis, Milford, Ohio, requests that AER members in the Cincinnati area interested in forming an AER chapter get in touch with him immediately.

Reviews

School Sound Systems. By U. S. Office of Education and the Radio Manufacturers Association Joint Committee on Standards for School Audio Equipment. Washington 4, D. C.: Radio Manufacturers Association. 1946. 32 pp. Free.

This 8½x11-inch pamphlet constitutes the first published result of a series of conferences between representatives of leading radio manufacturers and educators familiar with the general problems of school audio equipment design. The committee operated under the joint sponsorship of the U. S. Office of Education, the Cleveland Board of Education, and the Radio Manufacturers Association, and held its first meeting in Cleveland.

The book itself represents only part of the results of these meetings between representatives of education and the industry. Actually, the standards recommended represent no radical departures from what the professional communication engineers customarily regard as approved practices in equipment design and construction. Thus the report should be regarded as an attempt to establish a "floor" rather than a "ceiling"

for the design and construction of this kind of equipment. But it is an excellent "floor" and should be in the hands of all school superintendents and principals, as well as interested teachers and others.

School Sound Systems, among other things, provides details for a two-channel centralized system; an auxiliary system for use in auditoriums and/or gymnasiums, and/or cafeterias; and an auxiliary system for a radio workshop. It also discusses accessories commonly required for complete systems and means by which to insure consumer protection. Considerable space is devoted to an enumeration of the various ways in which school sound systems may be utilized. Exhibits include typical school day programs for elementary and secondary schools and a suggested functional installation chart.

Promised for later distribution are engineering standards covering various components of sound systems. These standards, which are of particular interest to school architects, purchasing agents, and engineers, are being developed by the Radio Manufacturers Association Engineering Department, and will be made available, without charge, as they are released.

The real significance of *School Sound Systems* is the concrete evidence it presents that at last a practicable working arrangement has been established whereby educators and manufacturers can pool their resources toward the solution of common problems. As one of the "educator" members of the committee states it, "At first, we on the committee who represent public education were 'telling them,' but before long, they were 'asking us.' They not only asked us the 'whats' and 'hows' and 'whys' of communications-equipment use in the schools; they asked for illustrative examples and for documentary proof in the nature of research data and factual reports of school-equipment activity applications."

That the specifications outlined in this pamphlet carry the added endorsement of the AER should be a source of gratification to every AER member and should give added confidence to all who make use of its findings in planning their school installation.—TRACY F. TYLER.



JOE HEROLD, chief technical supervisor, WOW, Omaha [right], explains the image-orthicon camera to the REV. R. C. WILLIAMS, S. J., moderator, Radio and Television Guild, Creighton University.

AER Television Committee—Aims and Objectives

THE TELEVISION COMMITTEE of the Association for Education by Radio was formed as the direct result of the panel discussion on "Education and Television" at the Tenth Annual School Broadcast Conference, Chicago, October 21-23, 1946. The general consensus of the small group attending this discussion was that unless some action were taken, educators were in danger of repeating the errors made by them at the time when radio was in its infancy.

The discussion of the panel members and the audience stressed that educators had failed, due to a variety of causes, to make full use of radio as an educational medium. "From the early days of radio, when universities, colleges, and other schools owned two hundred and two radio stations, the number dwindled to a mere twenty-six in 1945." Today educators are beginning to realize the magnitude of their loss. Some of our school systems are using radio as an important aid to instruction, but unfortunately they are still in the minority.

Recently FM channels have been offered to educators by the FCC. The Federal Radio Education Committee, the U. S. Office of Education, the Association for Education by Radio, and others have stimulated the interest of educators and tried to encourage them to utilize radio in and for education. However, administrators are still having difficulty in obtaining funds and public support for the establishment of stations and the employment of personnel to build adequate programs in radio education.

Educators should begin at once to

utilize and study available television facilities and to profit by the mistakes of the past through the establishment of a logical and workable plan for the use and development of television as a teaching aid. To investigate this field and to promote the development of

AER Television Committee

Paul L. Bogen, director of radio, University of Nebraska, and Elizabeth E. Marshall, program director, Radio Council-WBEZ, Chicago public schools, *Co-Chairmen*

Edward Stasheff, director of television, WNYE, New York City public schools

Milton J. Alexander, advertising manager, Allen B. Du Mont Laboratories, New York City

Paul B. Mowrey, national director of television, American Broadcasting Company, New York City

such activities the Television Committee of the Association for Education by Radio was appointed.

The following aims and objectives have been drafted to guide the activities of the committee during the ensuing year:

- [1] To determine the status of development of television broadcasting;
- [2] To explore the possible utilizations of television as an aid to instructional methods;
- [3] To investigate the programs of educational institutions and organizations now using television broadcasting;
- [4] To disseminate information concerning the first three aims listed above to those persons now engaged in the field of education by radio;
- [5] To stimulate interest among educators in television as an educational medium;
- [6] To encourage and develop television "In-Service Training" for educators;
- [7] To promote understanding and good will between commercial television personnel and educators; and
- [8] To assist in publicizing television and in the growth of its programming in order that education may earn and hold a place in the future plans of those developing this means of auditory and visual communication.

The designation of the February issue of the *AER Journal* as a special television number is the first step in accomplishing our aims and objectives. This accomplishment is due largely to the efforts of Elizabeth E. Marshall, program director, Chicago Radio Coun-

cil, and Co-Chairman, Television Committee. The excellent articles on the various phases of television which are found in this issue have been prepared by far-sighted leaders in commercial television and by members of the Association who had already worked in the field previous to the establishment of the committee. The committee is extremely appreciative of the work done in preparing the material for this issue of the *AER Journal*. Suggestions and information concerning future plans or past activities of Association members will be extremely welcome.—PAUL L. BOGEN, director of radio, University of Nebraska, *Co-Chairman*.

Radio at Missouri Association

An international broadcast of the Junior Town Meeting of the Air was a feature presentation for the Missouri State Teachers' Association meeting in Kansas City, Missouri, November 7.

Barbara McFarlane and Dick Griffith, senior high school students, and a representative audience of 100 students from Kansas City high schools discussed with Bella Marcus and Bernard Palmer, high school students in London, England, the question, "Are Schools and Students Meeting Their Obligations to Each Other." The program was presented by the Public Schools in cooperation with radio station KMBC, the BBC, and the Junior Town Meeting League.

Information Please?

The AER Television Committee is planning a school video survey to locate all educational television activities throughout the country—elementary and high school programs, college and university courses, local station and network tie-ups, past, present, and future experiments in television. These activities will provide interesting subject matter for educational television releases—a service of the AER Television Committee.

Have you any video activities to report? Would you like to be on our mailing list for these television releases? Send requests and information to Television Committee, Association for Education by Radio, 228 North LaSalle Street, Chicago 1.

¹Judith C. Waller, *Radio the Fifth Estate*, Houghton Mifflin Co., p. 397.

AER-TV Script Exchange

The AER Television Committee, in order to further the interest in educational television, is planning a TV Script Exchange. *Have you sample TV scripts which the Committee may reproduce in quantity for distribution?* Send sample scripts, together with written permission for exchange-study use, to Television Committee, Association for Education by Radio, 228 North LaSalle Street, Chicago 1.

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